



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,407	01/10/2002	Ji-Guang Zhang	170239-00034	5262

7590 01/28/2004

Dorian B. Kennedy  
Baker, Donelson, Bearman & Caldwell  
Suite 900  
Five Concourse Parkway  
Atlanta, GA 30328

EXAMINER
----------

ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/047,407

Applicant(s)

ZHANG, JI-GUANG

Examiner

Raymond Alejandro

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

This office action is responsive to the amendment of 11/26/03. The applicant has overcome the objections and the art rejections. However, the instant application is newly rejected over art as seen below:

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I (claims 1-16) in Paper No. 4 is acknowledged.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 06/21/02 (paper # 2) considered by the examiner.

### ***Drawings***

3. The drawings were received on 11/26/03. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 7-11 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Xing et al 6284406.

The instant claims are directed to a method of sealing a battery cell wherein the disclosed inventive concept comprises the specific sealing steps. Other limitations include the particular laminate layers; the heat sealing; the sealing of the battery surface. In addition, the product formed thereby is also claimed.

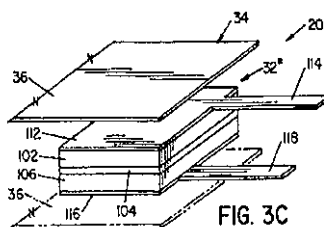
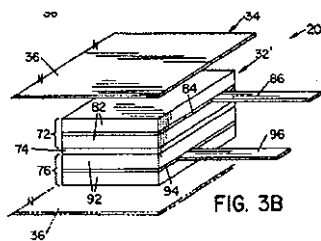
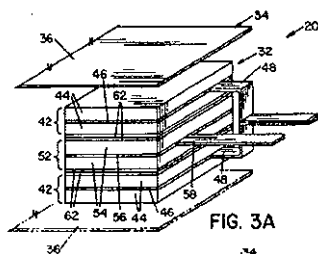
With reference to claims 1, 4-5, 7, 10-11, 13 and 15:

Xing et al disclose a battery embodiment wherein a battery 20 is contained within a package 34 formed of a flexible laminate material 36 (COL 3, lines 28-40). In reference to the outer package 34, it is disclosed that package 34 encases cell 32, 32' or 32'' is formed from a sheet of flexible laminate material 36. Broadly stated, the flexible laminate material is preferably multilayered and includes at least one layer of a metal foil and at least one layer of a thermoplastic (COL 4, lines 27-35). Xing et al further disclose that the metal foil layer is provided as a barrier to form a hermetic seal around cell 32. The thermoplastic adhesive and sealant is provided as an adhesive layer, which when heated, may bond onto itself or onto the metallic layer such that a hermetic seal is formed around cell 32 (COL 4, lines 35-40). It is further disclosed that heat and pressure are applied to the extending peripheral edges to cause the polymeric material and sealant material to soften and bond itself together to form a generally flange about the periphery of cell 32 (COL 4, lines 60-64).

Figures 3A-C below illustrate the steps for sealing the battery according to the aforementioned aspects, in particular, the use of a package 34 that encases cell 32, 32' or 32'' wherein the package 34 is formed from a sheet of flexible laminate material 36 which is a

Art Unit: 1745

multilayered arrangement of a metal foil and a thermoplastic material (COL 4, lines 27-40). *It is noted that the layers are positioned over the top and bottom surfaces of the battery, that is the battery is placed between the top and bottom layers. Heat is applied to these layers and to the periphery of the cell for sealing the same. It is also noted that the top and bottom layers seals the majority of the battery top and bottom surfaces, respectively. It is further noted that the method of sealing the battery is inherent as the prior art's sealed battery required sealing steps for producing it as disclosed.*



With reference to claims 2, 8 and 14:

Xing et al teach that the flexible laminate material is preferably multilayered and includes at least one layer of a metal foil and at least one layer of a thermoplastic (COL 4, lines 27-35).

With reference to claims 3 and 9:

Xing et al further teach that the metal foil layer is provided as a barrier to form a hermetic seal around cell 32. The thermoplastic adhesive and sealant is provided as an adhesive layer, which when heated, may bond onto itself or onto the metallic layer such that a hermetic seal is formed around cell 32 (COL 4, lines 35-40). It is further disclosed that heat and pressure are applied to the extending peripheral edges to cause the polymeric material and sealant material to soften and bond itself together to form a generally flange about the periphery of cell 32 (COL 4, lines 60-64). *Thus, heat and pressure are employed for sealing the battery.*

Therefore, the applied prior art does anticipate the present claims.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

#### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1745

8. Claims 6, 12 and 16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Xing et al 6284406.

Xing et al disclose a battery embodiment wherein battery 20 which comprises an electrolytic cell 32 is contained within a package 34 formed of a flexible laminate material 36 (COL 3, lines 28-35). This package 34 encases cell 32, 32' or 32'' is formed from a sheet of flexible laminate material which is, preferably, multilayered (COL 4, lines 28-40). Heat and pressure are applied to seal the battery (COL 4, line 35-40/ COL 4, line 60-64). It is noted that Xing et al disclose a substantially identical structural product, that is, a sealed battery comprising substantially the same structural features of the claimed invention.

Examiner's note: *It is noted that the instant claims are being construed as product-by-process claims and that the product itself does not depend on the process of making it. Accordingly, in a product-by-process claim, the patentability of a product does not depend on its method of production. In that, it is further noted that the product in the instant claims is the same as or obvious over the product of the prior art.*

Therefore, the claims are anticipated by Xing et al. However, if the claims are not anticipated the claims are obvious as it has been held similar products claimed in product-by-process limitations are obvious (See MPEP 2113). *In re Brown 173 USPQ 685 and In re Fessman 180 USPQ 324.*

Art Unit: 1745

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:30 am - 7:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Raymond Alejandro  
Examiner  
Art Unit 1745

A handwritten signature in black ink, appearing to read 'RAM', with a long horizontal line extending from the bottom of the signature.